

WHAT IS CLAIMED IS:

1. An ink jet printing apparatus that forms an image by ejecting ink from a print head in which a plurality of  
5 ejecting portion rows are arranged, to a print medium, each of the ejecting portion rows having a plurality of ejecting portions arranged in it, the apparatus comprising:

a carriage that scans a print head; and

preliminary ejecting means for ejecting the ink from  
10 said ejecting portions in said print head so that the ejection is not involved in formation of said image, and

wherein said preliminary ejecting means sequentially selects one of said plurality of ejecting portion rows as said ejecting portion on which an ejecting operation is  
15 performed, while said carriage is not performing a scanning operation, and said preliminary ejecting means then subjects the selected ejecting portion row to preliminary ejection.

20 2. An ink jet printing apparatus that forms an image by ejecting ink from a print head in which a plurality of ejecting portion rows are arranged, to a print medium, each of the ejecting portion rows having a plurality of ejecting portions arranged in it, the apparatus comprising:

25 (ejecting portion row arranging) means for arranging the plurality of ejecting portion rows at intervals of a predetermined distance set so that mists resulting from

a preliminary ejecting operation performed on the plurality of ejecting portion rows do not reach a surface of the print head in which the plurality of ejecting portion rows are disposed.

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3. An ink jet printing apparatus according to Claim 2, wherein said predetermined distance between said ejecting portion rows is 1.00 mm or less.

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4. An ink jet printing apparatus that forms an image by ejecting ink from a print head in which a plurality of ejecting portion rows are arranged, to a print medium, each of the ejecting portion rows having a plurality of ejecting portions arranged in it, the apparatus comprising:

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a carriage that scans a print head; and

preliminary ejecting means for ejecting the ink from said ejecting portions in said print head so that the ejection is not involved in formation of said image, and

wherein said preliminary ejecting means selects a set of plural adjacent ones of said plurality of ejecting portion rows as said ejecting portions on which an ejecting operation is simultaneously performed, and switches the set to perform a preliminary ejecting operation for said plurality of ejecting portion rows sequentially.

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5. An ink jet printing apparatus according to Claim 4, wherein said preliminary ejecting means performs a

plurality of preliminary ejections using said set of ejecting portion rows, and said preliminary ejecting means carries out preliminary ejection such that mists resulting from ink droplets ejected from said set of ejecting portion rows and impacting a print medium, the mists moving toward the ejecting portion surfaces, are pushed back from said ejecting portion surface by air currents resulting from a preliminary ejecting operation performed on a next row of ejecting portion rows, the air currents flowing in an ejecting direction.

6. An ink jet printing apparatus according to Claim 4, wherein said plurality of ejecting portion rows are provided for respective colors of ejected inks.

7. An ink jet printing apparatus comprising:  
a print head including a plurality of large ejecting portion rows in which large ejecting portions are arranged from which a relatively large amount of ink is ejected during one ejecting operation and a plurality of small ejecting portion rows in which small ejecting portions are arranged from which a relatively small amount of ink is ejected during one ejecting operation,

preliminary ejecting means for ejecting the ink from said ejecting portions in said print head so that the ejection is not involved in formation of an image,

preliminary ejecting control means for

simultaneously performing a preliminary ejecting operation on said plurality of large ejecting portion rows, and for performing a preliminary ejecting operation on said plurality of small ejecting portion rows one by one.

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8. A ink jet printing apparatus according to Claim 7, wherein said preliminary ejecting control means performs said preliminary ejecting operation for small ejecting portion rows after performing said preliminary ejecting operation for large ejecting portion rows.

9. An ink jet printing apparatus according to Claim 4, wherein said ejecting portions use thermal energy to cause ink to generate bubbles, a pressure of which causes ink to be ejected as droplets.

10. A preliminary ejecting method executed using an ink jet printing apparatus that forms an image by ejecting ink from a print head in which a plurality of ejecting portion rows are arranged, to a print medium, each of the ejecting portion rows having a plurality of ejecting portions arranged in it, the ink being ejected from said ejecting portions in said print head so that the ejection is not involved in formation of said image, the method comprising:

25 a step of sequentially selecting one of said plurality of ejecting portion rows as said ejecting portion on which an ejecting operation is performed and then subjecting the

selected ejecting portion row to preliminary ejection.

11. A preliminary ejecting method executed using an ink jet printing apparatus that forms an image by ejecting  
5 ink from a print head in which a plurality of ejecting portion rows are arranged, to a print medium, each of the ejecting portion rows having a plurality of ejecting portions arranged in it, the ink being ejected from said ejecting portions in said print head so that the ejection is not  
10 involved in formation of said image, the method comprising the step of:

selecting a set of plural adjacent ones of said plurality of ejecting portion rows as said ejecting portions on which an ejecting operation is simultaneously performed,  
15 and switching the set to perform a preliminary ejecting operation of said plurality for ejecting portion rows sequentially.

12. A preliminary ejecting method executed using an  
20 ink jet printing apparatus that forms an image by ejecting ink from a print head including a plurality of large ejecting portion rows in which large ejecting portions are arranged from which a relatively large amount of ink is ejected during one ejecting operation and a plurality of small ejecting  
25 portion rows in which small ejecting portions are arranged from which a relatively small amount of ink is ejected during one ejecting operation, to a print medium, the ink being

ejected from said ejecting portions in said print head so that the ejection is not involved in formation of said image, the method comprising the step of:

if a preliminary ejecting operation relates to said  
5 plurality of large ejecting portion rows, simultaneously performing a preliminary ejecting operation on said plurality of large ejecting portion rows; and

if a preliminary ejecting operation relates to said plurality of small ejecting portion rows, performing a  
10 preliminary ejecting operation on said plurality of small ejecting portion rows one by one.